EDITORIAL

Bladder catheterization in the emergency department: Think twice before catheterizing?

Sondaje vesical en urgencias: ¿repensar antes de sondar?

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It is estimated that between 15% and 25% of patients admitted to a hospital receive short-term (< 14 days) bladder catheterization (BC) during their stay. There is a direct relationship between the use of BC and an increased incidence of urinary tract infection (UTI), which is associated with a mortality rate of 10%.[1] In this regard, it is noteworthy that around 30% of patients with a BC have related UTI, and up to 70% of UTIs in hospitalized patients are suffered by patients with BC.[2] This iatrogenic relationship between BC and UTI could be avoided in many cases since, although there are differences between researchers, it is considered that between 30% and 80% of the BC performed in hospital emergency departments (ED) could be avoided.[3,4]

In Spain, diuresis assessment in the care of patients with acute heart failure (AHF) is implemented in almost 70% of the ED, although with notable variability in clinical management according to hospital and region, and it seems that the criteria for indicating BC are not uniform.[5] On the other hand, the presence in Spanish EDs of 28.3% of patients over 65 years of age makes it necessary to implement specific strategies aimed at this population. Thirty-five percent have some form of dependency, 74% have comorbidities (14% of them severe) and 25% require hospitalization after their visit to the ED. Among other specific actions in this context, the revision of the criteria for BC should be strict.[6] These comments come in the wake of two studies published in the current issue of EMERGENCIAS that provide a novel perspective on the evaluation of ED use of BC in older patients and in those treated for AHF.

In the first study, Domínguez-Rodríguez *et al.* analyzed the relationship between the BC of patients with AHF treated in the ED and their evolution over a 30-day period, mainly death or readmission for HF. They also studied in-hospital mortality, the presence of UTI and hospital stay.[7] The study reveals that patients with UTI who received BC in the ED suffered higher mortality than those who developed UTI without BC, probably due to greater severity of infection and greater probability of sepsis, together with a known higher incidence of death due to septic shock. According to the authors, BC is associated with worse prognosis at 30 days in patients with AHF, and they conclude by recommending that BC should be avoided in the ED in those patients who are conscious and continent.

Prospective data collection and the size of the sample provide robustness to the results. The exclusion of patients whose BC was due to reasons other than the management of AHF discriminated confounding variables, making the cohort a homogeneous group. The statistical design is rigorous and closely adjusted to the conditions of each variable, providing confidence in the interpretation of the results. By including recent-onset AHF and decompensation of chronic HF, the investigators demonstrate that severity conditions, comorbidities (except diabetes mellitus and cardiac functional status) and ED treatment are similar in both groups, and independent of BC in terms of the relationship with prognosis.

Since this was a descriptive design, the data reveal an association between the variables, but not causality. The lack of a record of the number of days that the BC was maintained is also recognized. The absence of data on renal function and the lack of a study of the microorganism responsible for UTI are also described. Its single-center character invites further studies with the participation of more EDs. In addition to the absence of a protocol for nursing care in the BC in the center, the authors do not describe the criteria for indicating the BC, which are known to be subject to considerable variability, so it would be very interesting to take these details into account in future studies.

The second study by Eiroa-Hernández *et al.* focuses on the population aged 65 years or older who consult in the ED for any cause and analyzes their clinical situation and history. They created two groups depending on the practice of BC in the ED and analyzed the clinical evolution according to variables of complexity, while attempting to relate the practice of BC to prognosis.[8] Of the 25 variables studied, 15 were independently related to BC. The results indicate that mainly decreased consciousness, dehydration, male sex (probably associated with prostatitis) and the presence of a neoplasm were related to BC. The authors conclude that BC in

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Author Contributions: The authors have confirmed their authorship in the document of author responsibilities, publication agreement, and assignment of rights to EMERGENCIAS.
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Article information: Received: 29-9-2023. Accepted: 1-10-2023. *Online:* 20-10-2023.
Editor in charge: Òscar Miró.

the ED is more likely the older the patient is, and that it is associated with longer ED stay, hospitalization, and short-term mortality.

This is a multicenter study with very broad participation of EDs. The statistical analysis strategy discriminated the confounding of variables that could condition the effect of the BC by masking other determining variables. In addition, it makes it possible to identify the evolution of patients according to their condition and, independently, the effect of the BC on their evolution. However, the care and indication of the BC are not fully explained. Another of the weaknesses of this study is the data collection, which was carried out on 7 consecutive days and, although it was performed in many centers with a high geographical representation, there could be a temporality bias.

Based on the analysis of the data from projects such as the EDEN project, it is possible to consider the BC as a procedure that worsens prognosis and increases complications and mortality, especially in elderly and frail patients.[9,10] On the other hand, among the areas for improvement in the management of AHF in the ED, the inclusion of agreed medical and nursing criteria for the indication of the BC seems to be quite appropriate.[11,12] In general terms, among the measures proposed by some authors to improve this situation are the reduction of unnecessary BC, reduction of placement time with periodic refills, intermittent catheterization, the use of external urine collectors (with a gender bias against women), ultrasound training for nursing teams with improvements in the identification of acute urinary retention and expert care, among others.[13,14] The studies discussed in this editorial indicate the need for a large clinical trial to confirm the results and provide clear recommendations on the clinical criteria for the indication of BC applicable in the ED and also in other health care units.

Conflict of Interests Disclosure: None reported.

Funding/Support: The authors declare the non-existence of funding in relation to the present article.

Ethical responsibilities: The authors have confirmed the maintenance of confidentiality and respect for patients' rights in the author responsibilities document, publication agreement and assignment of rights to EMERGENCIAS.

Article commissioned and reviewed internally by the Editorial Committee.

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